

**Bellwork: 4/2/13** - use your bellsheet from last week

**Perform the indicated operations:**

1)  $\frac{4}{9} + \frac{7}{12}$

$$\frac{16}{36} + \frac{21}{36} =$$

$$\frac{37}{36} = \frac{111}{108}$$

2)  $\frac{-3}{2} - \frac{5}{7}$

$$\frac{-21}{14} - \frac{10}{14} = \frac{-31}{14}$$

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NOTES 8.5

NAME \_\_\_\_\_  
PERIOD \_\_\_\_\_

**FINDING THE LEAST COMMON DENOMINATOR (LCD)**

- Procedure:** 1) Factor each denominator completely.  
2) The LCD is the product of the *highest* power of each *different* factor.

Find the LCD for fractions with the given *denominators*.

**Example 1:**  $24x^2y = 2^3 \cdot 3 \cdot x^2 \cdot y$   $36x = 2^2 \cdot 3^2 \cdot x$

$\begin{matrix} 12 & 2 & x & x & y \\ 12 & 3 & x \end{matrix}$   $\text{LCD} = \frac{12 \cdot 2 \cdot 3 \cdot x \cdot x \cdot y}{12x^2y}$

**Example 2:**  $x^2 - 16 = (x-4)(x+4)$   $x^2 - 8x + 16 = (x-4)^2$

$\begin{matrix} (x-4)(x+4) \\ (x-4)(x-4) \end{matrix}$   $\text{LCD} = (x-4)(x+4)(x-4)$

**Try these:** Find the LCD for the fractions with the given denominators.

1)  $18a^2b^3 = 2 \cdot 3^2 \cdot a^2 \cdot b^3$   $15ab^2c = 3 \cdot 5 \cdot a \cdot b^2 \cdot c$

$\begin{matrix} 3 & 6 & a & a & b & b & b \\ 3 & 5 & a & b & b & c \end{matrix}$   $\text{LCD} = 3 \cdot 6 \cdot 5 \cdot a \cdot a \cdot b \cdot b \cdot b \cdot c = 90a^2b^3c$

2)  $x^2 - 4 = (x+2)(x-2)$   $3x - 6 = 3(x-2)$

$\begin{matrix} (x+2)(x-2) \\ 3(x-2) \end{matrix}$   $\text{LCD} = 3(x-2)(x+2)$

3)  $3x - 15 = 3(x-5)$   $5x - 25 = 5(x-5)$

$\begin{matrix} 3(x-5) \\ 5(x-5) \end{matrix}$   $\text{LCD} = 3 \cdot 5 \cdot (x-5) = 15(x-5)$

4)  $x^2 - 9 = (x+3)(x-3)$   $x^2 + 6x + 9 = (x+3)(x+3)$

$\begin{matrix} (x+3)(x-3) \\ (x+3)(x+3) \end{matrix}$   $\text{LCD} = (x+3)(x-3)(x+3)$

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